

U.S.S.N. 10/063,151

IN THE CLAIMS

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1. - 13. (cancelled)

14. (previously presented) A system for noise reduction from a plurality of axial flow fans, comprising:

a shroud having an inner surface;  
a plurality of outer barrels accommodating the plurality of axial flow fans, respectively, and connected to the shroud, the outer barrels each having an inner and outer surface extending from the shroud inner surface and further defining a corresponding airflow; and

at least one noise silencer comprising at least one hollow cavity tuned to attenuate predetermined noise frequency ranges within the corresponding airflow, the at least one noise silencer connected to the corresponding airflow by at least one opening of a predetermined size through a corresponding one of the plurality of outer barrels.

15. (currently amended) The system of claim 14 wherein the at least one hollow cavity further comprises a sound absorbing material.

16. (original) The system of claim 15 wherein the sound absorbing material is steel wool.

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17. -- 18. (cancelled)

19. (original) A method for reducing noise from an air-moving device, comprising the steps of:

creating an airflow through a shroud and outer barrel;  
communicating air from the airflow within the barrel to a cavity with an opening; and

reducing airflow noise by resonating an air plug present in the opening forming a mass that resonates on a support of a spring force formed by the air enclosed in the cavity.

20. (previously presented) The method of claim 19 further comprising the step of redirecting the airflow using stator members.

21. (previously presented) An article of manufacture for reducing noise from an air-moving device, comprising:

a shroud having an inner surface disposed around an area defining an airflow;

at least one outer barrel connected to the shroud, the outer barrel having an inner and outer surface extending from the shroud inner surface further defining the airflow;

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at least one noise silencer comprising at least one hollow cavity tuned to attenuate predetermined noise frequency ranges within the airflow, the noise silencer connected to the airflow by at least one opening of a predetermined size through the outer barrel; and

at least one generally spiral pipe disposed between the opening through the outer barrel and the hollow cavity.

22. (previously presented) The article of manufacture of claim 21 wherein the at least one noise silencer is a Helmholtz resonator.

23. (previously presented) The article of manufacture of claim 21 wherein the at least one noise silencer is a broadband silencer.

24. (previously presented) The article of manufacture of claim 21 wherein the at least one noise silencer is a narrowband silencer.

25. (currently amended) The system article of claim 21 wherein the at least one noise silencer comprises a plurality of noise silencers for both narrowband and broadband application.

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26. (previously presented) The system of claim 14 wherein the at least one noise silencer is a Helmholtz resonator.

27. (previously presented) The system of claim 14 wherein the at least one noise silencer is a broadband silencer.

28. (previously presented) The system of claim 14 wherein the at least one noise silencer is a narrowband silencer.

29. (previously presented) The system of claim 14 wherein the at least one noise silencer comprises a plurality of noise silencers for both narrowband and broadband application.

30. - 34. (cancelled)

35. (previously presented) An article of manufacture for reducing noise from an air-moving device, comprising:

    a shroud having an inner surface disposed around an area defining an airflow;

    at least one outer barrel connected to the shroud, the outer barrel having an inner and outer surface extending from the shroud inner surface further defining the airflow;

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at least one noise silencer comprising at least one hollow cavity tuned to attenuate predetermined noise frequency ranges within the airflow, the noise silencer connected to the airflow by at least one opening of a predetermined size through the outer barrel; and

at least one pipe disposed between the opening through the outer barrel and the hollow cavity and extending generally parallel to the airflow.